WHAT IS CLAIMED IS:

1. A resonator device for testing a material quantity in the tobacco-processing industry for existence of at least one foreign substance and/or for detecting at least one of weight, density and humidity level of the material, comprising:

a resonator housing having a through opening for the material to pass through and a testing region located inside the resonator housing to which the material can be moved at least in part; and

at least one element that increases energy density of electromagnetic waves for increasing the energy density in at least a portion of the testing region,

wherein the element is a line resonator with at least one end face that functions as an electrode, and wherein the line resonator is a metal strip having an end face pointing in a direction of the testing region.

2. The resonator device according to claim 1, wherein the resonator housing has at least one inside wall that functions as an electrode.

3. The resonator device according to claim 2, wherein the at least one inside wall functions as a backplate electrode to the end face of the metal strip.

4. A measuring device for testing a quantity of material, in the tobacco-processing industry for existence of at least one foreign substance and/or for detecting at least one of weight, density and humidity level of the material, comprising:

at least two resonator housings each defining a respective measuring range, each resonator housing having an opening for the material to pass through; and

means for generating an electric field in each resonator housing in the respective measuring ranges and oriented in different spatial directions relative to each other.

5. The measuring device according to claim 4, wherein the material comprises a material flow moving in a conveying direction and the resonator housings are arranged sequentially in the conveying direction of the material flow.

6. The measuring device according to claim 4, wherein the electrical fields are essentially oriented orthogonal to each other.

7. A measuring device according to claim 5, wherein one field is essentially oriented in the conveying direction of the material flow and another field is oriented crosswise thereto.

8. The measuring device according to claim 4, wherein the at least two resonator housings include three resonator housings.

9. The measuring device according to claim 4, wherein each resonator housing includes:

a through opening for the material to pass through and a testing region located inside the resonator housing to which the material can be moved at least in part; and

at least one element that increases energy density of the electric field for increasing the energy density in at least a portion of the testing region.

10. The measuring device according to claim 4, wherein a single main housing comprises the at least two resonator housings.

11. The measuring device according to claim 4, wherein the measuring device is a microwave measuring device.

12. A measuring system for testing a material flow in the tobacco-processing industry for existence of at least one foreign substance and/or for detecting at least one of the weight, density and humidity level in at least one region of the material flow, comprising:

a first device for measuring the material flow in a first spatial direction; and

a second device for measuring the material flow in a second spatial direction that is different from the first spatial direction.

13. The measuring system according to claim 12, wherein at least one of the measuring devices is arranged to make a measurement in a conveying direction of the material flow.

14. The measuring system according to claim 12, wherein at least one measuring device is arranged to make a measurement crosswise to a conveying direction of the material flow.

15. The measuring system according to claim 12, wherein the at least two measuring devices comprises three measuring devices, the third measuring device measuring the material flow in a third spatial direction that is different from the first and the second spatial directions.

16. The measuring system according to claim 15, wherein the three spatial directions are essentially orthogonal relative to each other.

17. The measuring system according to claim 12, wherein each measuring device comprises:

a resonator housing having a through opening for the material flow to pass through and a testing region located inside the resonator housing to which the material flow can be moved at least in part; and

at least one element that increases energy density of electromagnetic waves for increasing the energy density in at least a portion of the testing region.

18. The measure system according to claim 12, wherein the measuring system is a microwave measuring system.

19. A method for testing a quantity of material in the tobacco-processing industry for existence of at least one foreign substance and/or for detecting at least one of weight, density and humidity level of the material, comprising:

generating a first electromagnetic field in a first resonator;

generating a second electromagnetic field in a second resonator;

moving the material through the first field and the second field; and

measuring a change in at least one characteristic of the electromagnetic fields.

20. The method according to claim 19, wherein the electromagnetic fields comprise electric fields which are oriented in different directions relative to each other.

21. The method according to claim 20, further comprising:

generating in a third resonator a third electric field that is oriented in a different direction to the first electric field and to the second electrical field;

moving the material through the third electric field; and

measuring a change in at least one characteristic of the third electric field.

22. The method according to claim 21, wherein the electric fields are essentially orthogonal to each other.

23. The method according to claim 19, including evaluating the measured values to generate an ejection signal.

24. The method according to claim 19, including correlating the measured values from the resonator devices.